**Chapter 4 – Matter and Energy in the Ecosystem**

# Roles of Living Things

## Producers/Autotrophs – organisms that make their own

nutrients.

* 1. Consumers/Heterotrophs – organisms that cannot make their own nutrients.
     1. Herbivores – eat plants.
     2. Carnivores – eat animals.
     3. Omnivores – eat both plants and animals.
     4. Scavengers – eat dead organisms.
  2. Decomposers – chemical break down of all matter.
  3. Trophic Levels – feeding levels.

# Ecosystem Structure

* 1. Food chain – specific pathway of energy(food).
  2. Food web – network of food chains.
     1. More diversity = more stability.
     2. Biological magnification – increasing concentration of a pollutant through a food chain.

# Energy in the Ecosystem

* 1. Energy and nutrients are passed through food webs.
     1. Biomass – total amount of organic matter present in a trophic level.
     2. Ecological pyramids – diagram that shows the amounts of energy in different trophic levels.
        + 1. Biomass pyramid – mass of organic matter at each trophic level.
          2. Numbers pyramid - # of organisms at

each level.